

RECEIVED  
CENTRAL FAX CENTER

PAGE 01/09

MAR 21 2007

PTO/SB/21 (09-06)

Approved for use through 03/31/2007. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL  
FORM

(to be used for all correspondence after initial filing)

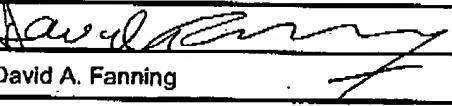
Total Number of Pages in This Submission

Application Number	09/929,221
Filing Date	August 13, 2001
First Named Inventor	Stephen F. Gass
Art Unit	3724
Examiner Name	Ghassem Alle
Total Number of Pages in This Submission	9
Attorney Docket Number	SDT 302

## ENCLOSURES (Check all that apply)

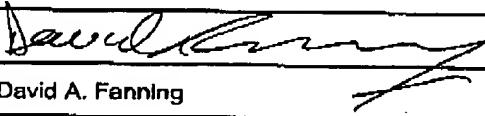
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/ Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
	<b>Remarks</b>	

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SD3, LLC		
Signature			
Printed name	David A. Fanning		
Date	March 21, 2007	Reg. No.	33,233

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	
Typed or printed name	David A. Fanning
Date	March 21, 2007

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

RECEIVED  
CENTRAL FAX CENTER

MAR 21 2007

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of

Date: March 21, 2007

STEPHEN F. GASS, J. DAVID FULMER and  
JOEL F. JENSEN

Serial No.: 09/929,221

Examiner Ghassem Alie

Filed: August 13, 2001

Group Art Unit 3724

For: APPARATUS AND METHOD FOR DETECTING DANGEROUS  
CONDITIONS IN POWER EQUIPMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**APPEAL BRIEF**

**1. Real party in interest.**

The real party in interest is SD3, LLC, the assignee of the above-identified application. SD3 is a privately owned Oregon limited liability company.

**2. Related appeals and Interferences.**

All other known prior and pending appeals, interferences or judicial proceedings which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal are listed below. These appeals are listed because SD3, LLC is the real party in interest and the appeals relate to various aspects of safety systems for power equipment. The currently pending appeals are:

1. Appeal of application serial number 09/929,227 (fully briefed).
2. Appeal of application serial number 09/929,237 (appeal brief due March 31, 2007).
3. Appeal of application serial number 09/929,238 (fully briefed).

4. Appeal of application serial number 09/929,242 (fully briefed).
5. Appeal of application serial number 10/053,390 (fully briefed).
6. Appeal of application serial number 10/100,211 (fully briefed).
7. Appeal of application serial number 10/146,527 (reply brief due May 5, 2007).
8. Appeal of application serial number 10/345,630 (appeal brief due March 31, 2007).
9. Appeal of application serial number 11/098,984 (fully briefed).

Applicant has also filed appeals in applications 09/929,426, 09/929,240, 09/929,425, 10/172,553, 10/189,027, 10/189,031, 10/243,042 and 10/292,607, but those applications have either been allowed, returned to the examiner, or prosecution has been re-opened. Applicant identifies these prior appeals because the applications involved may be related to the present application.

### **3. Status of claims.**

The application was filed with claims 1-18 and claims 19-24 were added during prosecution. Claims 7, 8, 11, 15 and 18 were cancelled without prejudice. Claims 1-6, 9, 11-14, 16, 17 and 19-24 have been allowed. Claim 10 has been rejected and it is the only claim on appeal.

### **4. Status of amendments.**

All amendments have been entered.

### **5. Summary of claimed subject matter.**

The claim at issue in this appeal relates to capacitive couplings used in safety systems for woodworking machines. Woodworking machines such as table saws, miter

saws, chop saws, radial arm saws, circular saws, band saws, jointers, and planers have cutting tools or blades that present a danger to persons using the machines, and each year tens of thousands of people in the United States are severely injured on such machines.<sup>1</sup> New safety technology has been invented to address this problem. The new technology detects when an unsafe condition arises between a person and the cutting tool and then performs some action to prevent or mitigate any injury. One embodiment of the technology is a table saw configured to detect contact between a person and the blade and to stop the blade from spinning upon detection of contact. Such table saws are now being sold under the name SawStop and those saws have already saved the hands or fingers of many different people who had accidents while using the saws.<sup>2</sup> A number of patent applications have been filed to protect different inventions related to the new technology and this is one of those applications.

Independent claim 10, the only claim at issue in this appeal, describes a woodworking machine (such as machine 10 shown schematically in Figure 1) having a motor (such as motor assembly 16 shown schematically in Figure 1), an electrically isolated, rotatable arbor configured to be driven by the motor (such as arbor 42 in Figures 2-7), and a circular blade coupled to the arbor (such as cutting tool 14 shown schematically in Figure 1 or blade 40 shown in Figures 2-5 and 10-12). An excitation

<sup>1</sup> The U.S. Consumer Product Safety Commission, National Electronic Injury Surveillance System, Directorate for Epidemiology, estimates there were 56,912 injuries involving various types of power saws and 21,547 injuries involving "saws, not specified" during 2005. (These statistics are publicly available at [www.cpsc.gov](http://www.cpsc.gov). The relevant product codes for searching include codes 832, 841, 842, 843, and 845.)

<sup>2</sup> SawStop saws are made and sold by SawStop, LLC, a wholly-owned subsidiary of applicant SD3, LLC. Pictures and videos of SawStop saws can be seen on the Internet at [www.sawstop.com](http://www.sawstop.com).

system is adapted to generate an electrical signal and a capacitive coupling is adapted to capacitively couple the excitation system to the arbor to transfer at least a portion of the signal to the blade. The capacitive coupling includes two spaced-apart conductors and the claim specifies that at least a portion of the outer surface of the arbor is one of the conductors. Embodiments of capacitive couplings to arbors are discussed in paragraphs 54 through 68 of the specification as published, and on page 21, line 8 through page 26, line 20 of the specification as originally submitted. The signal on the blade may then be monitored for changes indicative of a dangerous condition between a person and the blade.

**6. Grounds of rejection to be reviewed on appeal.**

The sole rejection presented for review is a rejection of claim 10 under 35 USC 102(b) as anticipated by Terauchi (US Patent 4,512,224).

**7. Argument.**

Claim 10 stands rejected under 35 U.S.C. 102(b) as anticipated by Terauchi (US Patent 4,512,224). The Board should reverse that rejection because “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” and Terauchi fails to disclose all the limitations of the claim. See Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); see also, 35 USC 102(b) and MPEP 2131.

Terauchi discloses a slitter machine to cut fabric rolled onto a tube. The roll is held horizontal by a guide rod G and the roll is rotated on the guide rod while a blade moves forward to cut the roll. The blade will advance until a limit switch contacts a stop,

at which point the blade will move back. If the limit switch fails, then the blade will continue to move forward without stopping until it contacts the rod supporting the roll. If that contact occurs, an electric current will flow between the blade and the rod to signal the blade to move back and/or stop. (Terauchi, column 2, line 60 through column 3, line 6.)

Claim 10 distinguishes Terauchi by reciting "a capacitive coupling adapted to capacitively couple the excitation system to the arbor to transfer at least a portion of the electrical signal to the blade." Claim 10 also distinguishes Terauchi by saying "the capacitive coupling includes two spaced-apart conductors" and by saying "at least a portion of the outer surface of the arbor is one of the conductors." Instead of a capacitive coupling as recited in claim 10, Terauchi discloses a *conductive* coupling that applies "[a]n AC voltage of approximately 8 V ... to the cutting blade through the bearing 14a." (Terauchi, column 2, lines 60-61.) This is the only system disclosed by Terauchi to impart the voltage to the blade.

The examiner, however, says guide rod G and drive shaft 121 in Terauchi form a capacitive coupling as recited in the claim. (Final Office Action mailed 10/23/06, p. 2.) The examiner's position, however, cannot be correct because the guide rod and drive shaft do not "capacitively couple the excitation system to the arbor to transfer at least a portion of the electrical signal to the blade." There simply is no capacitive coupling between guide rod G and drive shaft 121. Even if Terauchi's limit switch fails and the blade contacts the guide rod, there still would not be any capacitive coupling with spaced-apart conductors. In that case, there would be a *conductive* coupling between

the blade and the guide rod, not a capacitive coupling, because the blade would touch the guide rod. This is evident from the following quotations from Terauchi:

"When a current flows between the cutting blade 12 and the guide holder rod G *due to contact*, the preferred embodiments of the present invention performs safety control ...." (Terauchi, column 2, lines 64-67, emphasis added.)

"When they *contact* each other, a current flows." (Terauchi, column 3, line 6, emphasis added.)

In summary, nowhere does Terauchi teach or disclose a capacitive coupling with spaced-apart conductors where at least a portion of the outer surface of the arbor is one of the conductors as recited in claim 10, and therefore, Terauchi does not anticipate the claim.

#### **8. Claims appendix.**

10. A woodworking machine, comprising:
  - a motor;
  - an electrically isolated, rotatable arbor configured to be driven by the motor, where the arbor has an outer surface;
  - a circular blade coupled to the arbor;
  - an excitation system adapted to generate an electrical signal; and
  - a capacitive coupling adapted to capacitively couple the excitation system to the arbor to transfer at least a portion of the electrical signal to the blade, where the capacitive coupling includes two spaced-apart conductors, and where at least a portion of the outer surface of the arbor is one of the conductors.

RECEIVED  
CENTRAL FAX CENTER  
MAR 21 2007

**9. Evidence appendix.**

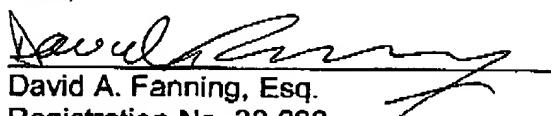
None.

**10. Related proceedings appendix.**

None.

Respectfully submitted,

SD3, LLC

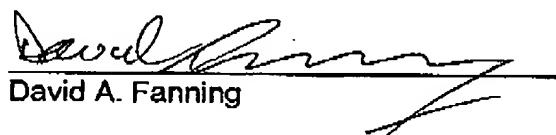


David A. Fanning, Esq.  
Registration No. 33,233  
Customer No. 27630  
9564 S.W. Tualatin Road  
Tualatin, Oregon 97062  
Telephone: (503) 570-3200  
Facsimile: (503) 570-3303

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this Appeal Brief is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office to number (571) 273-8300, on the date shown below.

Date: March 21, 2007

  
\_\_\_\_\_  
David A. Fanning